

### REMARKS

Claims presented for prosecution are claims 1-4. The Examiner rejected claims 1-4 as being anticipated by cited prior art. The Applicants have amended claim 1. In view of the Applicants' amendments and remarks below, the Applicants respectfully submit that claims 1-4 are now in condition for allowance. Accordingly, the Applicants request that the Examiner consider and enter the present Response, withdraw the rejections to the claims and pass the case to issue.

#### ***IN THE CLAIMS:***

The Applicant has amended claim 1 to specify that the aluminum alloy contains by weight, 4.0 – 9.5% Si and 0.7 – 1.3% Cu. Support for this Amendment can be found at page 14, lines 5-9 of the application. No new matter has been entered. The Applicants have amended the claim for clarification purposes only.

The Applicants note that the Examiner spoke with Stephen Scuderi, the attorney formerly assigned to this case. In the conference, the Examiner indicated that the above-referenced amended ranges of Si and Cu may well overcome Japanese Patent No. JP 9-3581-A. The Applicants have amended claim 1 to comport with the Examiner's comments and suggestions in this regard.

#### ***IN THE DRAWINGS:***

The Examiner objected to the drawings as failing to comply with 37 C.F.R. 1.84(p)(5) because they include the reference numerals 19 and 20, which are not mentioned in the description. Applicants have amended the specification to include these reference numerals. The reference numeral 19 refers to "molten metal" and reference numeral 20 refers to the "mating surface of the mold." These features are clearly depicted in FIG. 2 of the application. No new matter has been entered.

#### ***35 U.S.C. §102:***

The Examiner has rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by Japanese Patent No. JP 9-3581. Applicants traverse the Examiner's rejection for the reasons discussed below.

JP 9-3581 discloses a forged aluminum product with high fatigue strength. The forged aluminum product has a structure in which a primary-crystal dendrite is divided by electromagnetic stirring or mechanical stirring and then grown as individual grains. The spaces among the grains are filled with eutectic Si. The primary-crystal dendrite is then hot-forged at, preferably, 350-540 degrees C to homogenize the structure and composition of the forged aluminum product. Additionally, T6 heat processing can be applied to the forged aluminum product.

A claim is anticipated only if each and every element set forth in the claim is found either expressly or inherently in a single prior art reference. See MPEP § 2131.01. Here, JP 9-3581 does not disclose all the limitations of claim 1 as amended by the Applicants.

Amended claim 1 includes the step of pouring molten metal of an aluminum alloy containing, by weight, 4.0% to 9.5% Si and 0.7% to 1.3% Cu into a mold to cast a preform. In contrast, JP 9-3581 discloses an aluminum alloy containing 6.5 – 8.0% Si combined with 0.2 – 0.6% Cu, and an aluminum alloy containing 10.0 – 13.5% Si combined with 0.5 – 3.5% Cu. *See* JP 9-3581, paragraphs 0005-0006. Neither example contains percentages of Si and Cu that touch, overlap or are within both of the ranges in amended claim 1. In the first aluminum alloy, the range of Cu is less than the claimed range. In the second aluminum alloy, the range of Si is greater than the range claimed in amended claim 1. Accordingly, JP 9-3581 does not disclose pouring molten metal of an aluminum alloy with percentages of Si and Cu in the ranges of amended claim 1. In light of the above, the Examiner's §102(a) rejection of claim 1 as amended is untenable.

### **35 U.S.C. §103**


The Examiner has rejected claims 2-4 under 35 U.S.C. §103(a) as being unpatentable over JP 9-3581 as applied to claim 1, further in view of Drury et al. (U.S. Pat. No. 5,211,216)(the "'216 patent"). Applicants traverse the Examiner's §103(a) rejection for the reasons discussed below.

According to §2143 of the MPEP, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. Here, the cited references do not teach or suggest all the claim limitations of claims 2 – 4.

As discussed above, the Applicants have amended claim 1 to include the step of pouring molten metal of an aluminum alloy containing, by weight, 4.0% to 9.5% Si and 0.7% to 1.3% Cu into a mold to cast a preform. Claims 2-4 all depend on claim 1 and contain all of the limitations of claim 1 including the amended percentage ranges of Si and Cu. The primary reference, JP 9-3581, does not teach or suggest an aluminum alloy within these ranges. Further, the '216 patent does not teach or suggest the ranges of Si and Cu in claim 1. Therefore, the cited references do not teach or suggest all the limitations of claims 2-4 and the Examiner's §103 (a) rejection of the claims is improper.

No fees are considered to be due; however, if it is determined that payment of a fee is required, please charge our Deposit Account No. 13-0235.

Respectfully submitted,

By 

Kevin H. Vanderleeden, Esq.  
Registration No. 51,096  
Attorney for Applicants

McCORMICK, PAULDING & HUBER LLP  
CityPlace II, 185 Asylum Street  
Hartford, CT 06103-4102  
Tel: (860) 549-5290  
Fax: (413) 733-4543